

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF VIRGINIA
ALEXANDRIA DIVISION**

AMPEREX TECHNOLOGY LIMITED,

Plaintiff,

v.

SEMICONDUCTOR ENERGY
LABORATORY CO., LTD.,

Defendant.

CASE NO. 1:23-CV-272-PTG-LRV

JURY TRIAL DEMANDED

AMPEREX TECHNOLOGY LIMITED'S RESPONSIVE
CLAIM CONSTRUCTION BRIEF

REDACTED VERSION

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I. INTRODUCTION

SEL recognizes the black letter law that “[t]here are only two exceptions to [the] general rule” that “words of a claim are generally given their ordinary and customary meaning.” *Thorner v. Sony Computer Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). The first is lexicography, for which the patentee must “clearly express an intent” to redefine the term, and the second is claim scope disavowal for which the standard is “similarly exacting.” *Id.* (internal citation omitted) In other words, where a term is defined or expressly limited by the specification, that definition should control. Otherwise, the plain and ordinary meaning should control. ATL’s proposed constructions follow these principles, while SEL’s proposed constructions for “crack portion” and “present in a crack portion” seek unwarranted exceptions to both.

On the one hand, SEL argues that “crack portion” should not be given its clear lexicographic definition that is taken verbatim from the specification of the ’828 Patent. Dkt. 93 (ATL’s Opening Brief) at 12. On the other hand, in stark contrast, SEL seeks a departure from the plain and ordinary meaning of “**present in** a crack portion” where there has been no lexicographic definition (by SEL’s own admission) and no credible claim scope disavowal. Dkt. 91 (SEL’s Opening Brief) at 11. Worse still, SEL’s construction reads out an express embodiment of its own invention that does not require its proposed “segregation,” dooming its attempt to rewrite its claims post-issuance.

SEL’s argument regarding “relative value of a concentration” fares no better. *Id.* at 17. SEL maintains that this term should be given its plain and ordinary meaning yet still fails to explain if the term can be met by XPS analysis on an atomic basis, weight basis, either of the two, or both of the two. As explained in ATL’s opening brief, a POSITA would have no guidance in understanding how to calculate the claimed XPS ratio. Despite being on notice of this argument through the

Court-ordered meet and confer, SEL made no effort to substantively address this argument in its opening brief.

ATL thus respectfully requests that the Court adopt ATL’s proposals for “crack portion” and “present in a crack portion,” and find “relative value of a concentration” indefinite.

II. ARGUMENT

A. “Crack Portion”

Claims	Claim Term	ATL’s Proposed Construction	SEL’s Proposed Construction
1, 2 (dependent on 1), 4 (dependent on 1)	“crack portion”	“a crack or break formed in a particle” ¹	Plain and ordinary meaning, i.e., a portion containing a crack or break

SEL argues that “crack portion” should be construed to exclude “the void created by the crack of the PEAM particle” (Dkt. 91 at 8), despite the ’828 Patent’s clear recitation that “a crack portion *refers to* a crack or break formed in a particle like a crack portion 106 illustrated in FIG. 1C.” ’828 Patent, 9:58–60 (emphasis added). As explained in ATL’s opening brief, the use of the phrase “refer[s] to” “conveys an intent for [such a phrase] to be definitional.” *Parkervision, Inc. v. Vidal*, 88 F.4th 969, 976 (Fed. Cir. 2023); *see also* Dkt. 93 at 8–9. And should there be any doubt, the “106” label in Figure 1C referenced in that definition expressly circles the entire crack and the void inside of it. *Id.*, Fig. 1C. Accordingly, according to black letter Federal Circuit law, the term “crack portion” should be construed as “crack or break formed in a particle”—no more and no

¹ For ease of readability in the Asserted Claims, since the “particle” of the specification’s definition appears after an additional clause in the claim, ATL recommends the construction be inserted around the existing claim language, as shown in brackets here: “a crack or break [observed by a TEM] formed in [the positive electrode active material] particle.”

less. SEL’s attempt to carve out “the void created by the crack” (a term that appears nowhere in the specification) from this express definition must fail.

Indeed, SEL acknowledges that the specification states that a “crack portion refers to a crack or break formed in a particle” (Dkt. 91 at 10) but fails to address the lexicographic import of “refers to.” *See Parkervision*, 88 F.4th at 976. Rather, SEL downplays its definition by suggesting that it is “silent with respect to whether the crack or break includes the void created by the crack or break.” Dkt. 91 at 10. This argument is belied by SEL’s own argument—clearly, SEL believes the definitional sentence captures “the void,” as it proposes a different construction that does not appear in the specification (“a portion containing a crack or break”) that it now argues excludes that “void.” *Id.* at 8. And despite this clear definitional language, SEL makes several other arguments that hold no water. Each is addressed in turn below.

First, despite acknowledging that the claim recites a crack portion “*in*” the positive electrode active material, SEL argues that a “void created by the crack portion is not *part of* the [PEAM] particle.” *Id.* at 9 (emphasis added); *see also id.* (“The ‘crack portion’ . . . should not be construed to include a void that itself is not *part of* the particle”) (emphasis added). In so arguing, SEL argues inconsistent with the plain language of the claim, which only requires that the crack portion be “in” the PEAM particle (which both the particle walls and the “void” are), not that it must be “part of” the PEAM particle or only the particle walls on the inside of the crack portion. Indeed, only ATL’s construction is consistent with the express definition’s identification of a “crack portion” in Figure 1C, which circles the entire portion of the crack portion *in* the particle, and includes both the void and the walls of the particle. ’828 Patent, 9:58–60, Fig. 1C.

Relatedly, SEL then argues that “if the inventors wanted to claim the void created by the crack, the inventors could have claimed the ‘crack’ and not ‘crack portion’ of the PEAM particle.”

Id. At the outset, SEL’s argument contradicts its argument above: if “part of” requires only the walls of the particle be covered by this claim, then both “crack” and “crack portion” would both presumably be so limited. And even setting this inconsistency aside, it remains unclear why SEL believes “crack portion” excludes the void while “crack” does not. Indeed, “crack portion” implies the entire **portion** where a crack (which SEL admits encompasses the void) may be found.

Second, SEL argues that the ’828 Patent’s specification describes the presence of a representative element and fluorine in the walls of a crack portion, and does not describe either element being present in the void created by the crack portion. Dkt. 91 at 9. This is factually incorrect. The ’828 Patent expressly states that the electrolyte of a battery can be found in a crack and is in contact with the “exposed” “new surface” of the crack:

When charge and discharge cycles are repeated, deformation of the particles of the positive electrode active materials, ***such as cracking or breaking***, might occur. It is said that such ***deformation makes a new surface of the positive electrode active material exposed, and the surface is in contact with an electrolyte solution to cause a decomposition reaction or the like***, so that the cycle characteristics and the charge and discharge characteristics of the secondary battery are degraded.

’828 Patent, 4:1–9 (emphases added). SEL’s own brief admits that the “void created by the crack portion” is “space that is filled with electrolyte solution” (Dkt. 91 at 9), and the ’828 Patent confirms that the electrolyte solution can comprise fluorine-containing salts, such as LiPF₆. ’828 Patent, 34:15–22.

Moreover, even if SEL were correct that the '828 Patent never described magnesium or fluorine in the void created by the crack portion (SEL is not), that would still be insufficient to justify rewriting the patent's lexicographical definition. Even if SEL's argument were credited that "the specification repeatedly uses the term" in a first way and "never uses" the term in any other way, even "this does not rise to the level of either lexicography or disavowal," which "require a clear and explicit statement by the patentee." *Thorner*, 669 F.3d at 1367–68 (declining to construe "attached" to mean "attached to an outer side," even where specification repeatedly and exclusively used "attached" to mean external attachments, and never used "attached" to refer to internal attachments). That SEL is seeking to run away from a plain definitional statement to the contrary only compounds the problem with SEL's proposal. And far from SEL's allegation that ATL's construction is "wholly unsupported by the intrinsic evidence" (Dkt. 91 at 9), ATL's construction comes directly from the specification's language—namely, that "a crack portion refers to a crack or break formed in a particle." '828 Patent, 9:58–60. SEL cannot say the same.

Third, SEL argues that, under ATL's construction, "the fluorine and representative [sic] must be present in the void created by the crack," which SEL argues runs counter to "the purpose of the claimed invention [] to create a protective barrier for the PEAM particle so that it does not degrade from exposure to electrolyte solution." Dkt. 91 at 9–10. SEL's misrepresents ATL's argument—ATL does not argue that "the fluorine and representative [element] **must be** present in the void created by the crack." Rather, ATL's position is that a "crack portion" is a "crack or a break formed in a particle," as the specification itself says. '828 Patent, 9:59–60.

Moreover, SEL's argument mischaracterizes the purpose of the '828 Patent. Throughout its entire argument related to "crack portion," SEL claims the purpose of the patent was to form a "protective layer":

Although it was known that certain elements could protect the surface of the PEAM particle (Luchte [sic]² Decl. ¶¶ 23–24), it remained a challenge to apply these elements to the walls of the cracks that had formed in the PEAM particle, thereby leaving the walls of the cracks vulnerable to “a decomposition reaction or the like.” ’828 Patent at 4:3–10; *see also* Luchte Decl. ¶¶ [sic] Luchte Decl. ¶¶ 23–24. In other words, the walls of the crack remained insufficiently protected from the electrolyte solution. The inventors discovered that a particular heating process could non-uniformly distribute these protective elements to the portion of the PEAM particle with the crack, thereby forming a protective barrier from the electrolyte solution that had filled the void created by the crack. Luchte Decl. ¶¶ 24–29.

Dkt. 91 at 8–9; *see also id.* at 9–10 (“[T]he purpose of the claimed invention is to create a protective barrier for the PEAM particle so that it does not degrade from exposure to electrolyte solution.”).

There are several problems with SEL’s characterization. As an initial matter, SEL backfills its sporadic citations to the intrinsic record with pages of extrinsic evidence from its technical expert, Dr. Lucht. “The Federal Circuit has admonished that claims should preferably be interpreted without recourse to extrinsic evidence such as expert testimony, other than perhaps dictionaries or reference books, and that expert testimony should be received only for the purpose of educating the judge.” *EMI Grp. N. Am., Inc. v. Intel Corp.*, 157 F.3d 887, 892 (Fed. Cir. 1998); *see Solvay S.A. v. Honeywell Int’l, Inc.*, 622 F.3d 1367, 1382 (Fed. Cir. 2010) (refusing to interpret claim “based on extrinsic expert testimony alone”) (collecting cases). Even less weight is entitled when the technical expert’s “opinion” appears merely to be a mouthpiece of its lawyer’s own briefing, and indeed here, a wholesale copy of several paragraphs from SEL’s opening brief and very similar in language to SEL’s 2023 Opposition to ATL’s Motion to Dismiss. *Compare* Dkt. 91, Ex. A (Lucht Decl.), ¶¶ 24–25 (“Rather than using conventional approaches to coat the outside of the particle . . .”), *with* Dkt 91 (SEL’s Opening Brief) at 2–3 (“Rather than using conventional approaches to coat the outside of the particle . . .”), *and* Dkt. 30 at 3–4; *see Bushnell Hawthorne*,

² SEL repeatedly and consistently misspells the name of its expert, Dr. Lucht, in its opening brief.

LLC v. Cisco Sys., Inc., No. 1:18-CV-760, 2019 WL 2745735, at *5 (E.D. Va. July 1, 2019) (holding the “expert declaration is neither useful nor persuasive in the instant claim construction determination” when it “in large part simply repeats arguments that [a party] makes in its brief”).³

Even if credited, however, SEL’s reliance on the “purpose” of the invention is legally unsound. “[C]laim construction is a function of the words of the claim[,] **not** the ‘purpose’ of the invention,” especially where a patentee’s construction “amounts to a wholesale judicial rewriting of the claim.” *Source Vagabond Sys. Ltd. v. Hydrapak, Inc.*, 753 F.3d 1291, 1301 (Fed. Cir. 2014) (emphasis added) (rejecting patentee’s proposed construction that “ignore[d] the canons of claim construction” and instead relied on “*purpose* of the invention”) (italics in original). Indeed, “[a]n invention may possess a number of advantages or purposes,” and “[t]he court’s task is not to limit claim language to exclude particular devices because they do not serve a perceived ‘purpose’ of the invention.” *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1370 (Fed. Cir. 2003).

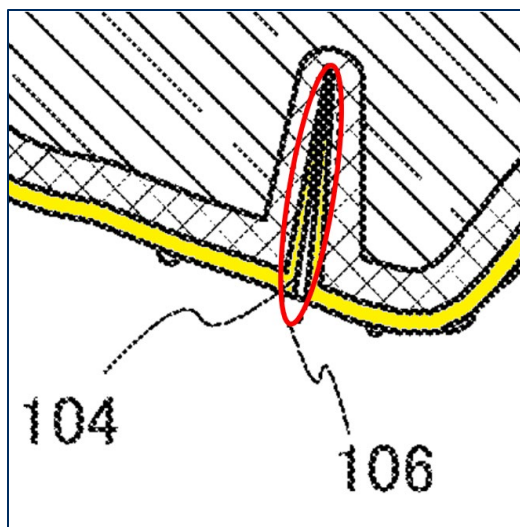
Critically, none of the supposedly inventive principles that SEL developed—the “particular heating process,” the “non-uniform[] distribut[ion]” of “protective elements,” and the “protective barrier from the electrolyte solution”—appears in any of the limitations of the claims or are ever even set out as a sole “invention” of the patent. This alone renders SEL’s “purpose” argument inapposite. *See Source Vagabond*, 753 F.3d at 1301 (“To be clear, it is the purpose of the *limitation* in the claimed invention—not the purpose of the invention itself—that is relevant.”) (italics in original) (quoting *Cohesive Techs., Inc. v. Waters Corp.*, 543 F.3d 1351, 1368 (Fed. Cir. 2008)).

³ Indeed, in paragraphs where SEL’s lawyers and experts copy from one another, the most evident change is in the handling of this term. Dr. Lucht repeatedly references “surfaces of crack portions” to identify the area excluding the void, whereas SEL’s lawyers refer to that as merely the “crack portion.” In doing so, even Dr. Lucht appears to indicate that “crack portion” is not so narrow as to exclude the void in the particle, as he repeatedly identifies the “surfaces of crack portions” when he wants to exclude the void. *See, e.g.*, Dkt. 91, Ex. A (Lucht Decl.), ¶ 24.

Indeed, “without explicit claim language relating to [a] problem” stated in the specification, there is “no reason why the invention as recited in [any given claim] must include the [] feature described in the written description as a solution to that problem.” *Resonate Inc. v. Alteon Websystems, Inc.*, 338 F.3d 1360, 1367 (Fed. Cir. 2003).

Further, SEL ignores other stated purposes of the ’828 Patent, including the purpose of repairing crack portions by filling them with other materials. Specifically, the ’828 Patent discloses a “Fourth Region 104” where, “when the positive electrode active material 100 contains a defect such as a crack portion 106, the fourth region 104 may be present *to embed the defect such as the crack portion* 106.” ’828 Patent, 24:57–63 (emphasis added); *see also id.*, 25:12–14 (stating “fourth region 104” can be used to “repair[]” “the defect such as the crack portion 106”). Contrary to SEL’s argument, this stated purpose of the ’828 Patent, which SEL ignored, expressly advocates for materials to be present in the “void space” created by the crack portion. *Golight, Inc. v. Wal-Mart Stores, Inc.*, 355 F.3d 1327, 1331 (Fed. Cir. 2004) (declining to limit claim reciting “a searchlight apparatus” to apparatuses with the ability to rotate around 360°—even though that rotation feature was a “particular advantage” mentioned by the specification—because the “written description describes other significant features as well”).

Even if the Court finds that the sole purpose of the ’828 Patent is to form a protective coating on PEAM particles (it is not), the presence of magnesium and fluorine in the void is consistent with this purpose, as a protective layer would necessarily occupy some part of the void. For example, the ’828 Patent explains that “*the third region 103 may be present in* a portion which includes crystal defects or *a crack portion* in the positive electrode active material[.]” ’828 Patent, 9:51–10:4 (emphasis added). And Figure 1C (excerpted below) clearly shows third region 103 in the void space of the crack portion:



Id., Fig. 1C (third region 103 annotated in yellow, and crack portion 106 annotated in red circle). Third region 103 is a coating layer that may comprise magnesium and fluorine. *See id.*, 12:5–30. Thus, even under SEL’s theory of the “purpose” of the ’828 Patent, the patent itself still contemplates the presence of fluorine and magnesium in the void of a crack portion.

In sum, none of SEL’s arguments defeats the basic principle that the specification’s definition of “crack portion” should apply. ATL respectfully requests that the Court adopt its proposed construction, which comes from the express words of the ’828 Patent’s specification.

B. “Present in a Crack Portion”

Claims	Claim Term	ATL’s Proposed Construction	SEL’s Proposed Construction
1, 2 (dependent on 1), 4 (dependent on 1)	“present in a crack portion”	Plain and ordinary meaning (<i>i.e.</i> , “present in a crack or break formed in a particle”)	“Non-uniformly distributed in a portion containing a crack or break”

As explained in ATL’s opening brief, and keeping with Federal Circuit precedent, “**present in** a crack portion” has a plain and ordinary meaning and should be given this plain and ordinary meaning. *See Straight Path IP Grp., Inc. v. Sipnet EU S.R.O.*, 806 F.3d 1356, 1361 (Fed. Cir. 2015) (declining to construe “**is connected** to the computer network” as anything other than “is

connected at that time” as there was no genuine uncertainty as to its meaning) (emphasis added); *see also* Dkt. 93 at 10–12. ATL’s position is supported by the ’828 Patent, which uses the term “present in” (or “present inside”) twenty-eight times, without once stating a requirement that an element be “non-uniformly distributed” (let alone segregated). *Id.* at 12.

In contrast, not only is SEL’s position unsupported by the ’828 Patent, it is confusing, to say the least. SEL proposes a series of linguistic gymnastics to tie the claim language (“present in”) to one term (“non-uniformly distributed”) and to tie that term to yet another term (“segregation”). Apparently, “segregation” is SEL’s true goal, as the entire section of SEL’s brief related to “present in a crack portion” appears to argue this term means segregation.⁴

The fact that “segregation” is not SEL’s proposed construction—but is instead hidden behind two layers of its construction argument—should not go unnoticed. Rather, it is an attempt to quietly slip into the case a construction of “present in” to which this Court has already expressed skepticism. Indeed, as ATL explained in its opening brief, SEL previously told the Court that the claims of the ’828 Patent required “segregation” in order to avoid invalidity. Dkt. 93 at 13 (citing Dkt. 30 at 4 (SEL’s July 10, 2023 Opp. to Mot. To Dismiss)). The Court stated that it understood SEL’s position, but correctly pointed out that the claim language did not include segregation or the heating step underlying segregation. *See* Ex. 8 (August 3, 2023 Tr. re Mot. to Dismiss) at 23:4–8 (“THE COURT: I understand your argument on that. I did have a question about what you allege in your opposition about . . . that manufacturing step of heating. Where is that in your claim language, though?”). SEL’s counsel responded by saying that “segregation is an explanation for how magnesium and fluorine end up in the crack portion,” but even so, the Court stated that it was

⁴ In Section IV.B of its brief, SEL uses “segregation” (and variants) 14 times, but only uses “non-uniform” 12 times, including in mere recitations of its purported constructions. *See* Dkt. 91 at 11–17.

“still confused by how in reading the patent or just the claim language of the patent [is the Court] to know that that [*i.e.*, segregation] is the issue when . . . that language isn’t referenced anywhere.” *Id.*, 23:16–24:1.

The Court’s initial intuition was correct. As ATL explained in its opening brief, the ’828 Patent does not define “present in a crack portion” as “non-uniformly distributed.” Dkt. 93 at 14. Rather, at most, the ’828 Patent suggests “segregation” means “non-uniformly distributed.” *Id.* But, as is apparent from the claim language, neither “non-uniformly distributed” nor “segregation” appears in any claims of the ’828 Patent. *See* ’828 Patent, Cls. 1–8. Try as SEL might to use “non-uniformly distributed” to backdoor a construction that the Court has already cast doubt on, SEL’s arguments are unconvincing. ATL addresses each of SEL’s arguments in turn, below.

1. The Claims Do Not Support SEL’s Construction

Even before addressing SEL’s arguments, it is important to recognize that SEL offers no argument based on the claim language. It is black-letter law that any claim construction inquiry must begin with the claims. “In construing claims, the analytical focus must begin and remain centered on the language of the claims themselves, for it is that language that the patentee chose to use to particularly point out and distinctly claim the subject matter which the patentee regards as his invention.” *Interactive Gift Exp., Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001) (internal quotation marks omitted); *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998) (“[T]he claim construction inquiry, therefore, begins and ends in all cases with the actual words of the claim[.]”). SEL’s brief does not begin where the Federal Circuit advises it must—in the claims—but instead jumps directly to the specification. That is because the claims do not support SEL’s construction, and the specification should not be read into the claims absent a lexicographic definition or disclaimer of claim scope, neither of which is present. *See* Dkt. 93 at 10–18; *InterDigital Commc’ns, LLC v. Int’l Trade Comm’n*, 690 F.3d 1318, 1324 (Fed. Cir.

2012) (“The plain meaning of claim language ordinarily controls unless the patentee acts as his own lexicographer and provides a special definition for a particular claim term or the patentee disavows the ordinary scope of a claim term either in the specification or during prosecution.”); *Lucky Litter LLC v. Int’l Trade Comm’n*, 403 F. App’x 490, 494 (Fed. Cir. 2010) (same); *Thorner*, 669 F.3d at 1365 (same); see *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002) (“We indulge a ‘heavy presumption’ that a claim term carries its ordinary and customary meaning.”). That can be the end of this analysis. *Id.*

Despite this, SEL claims that the ’828 Patent is directed to “segregation,” and even says the “critical advance set forth in the ’828 Patent is to **heat** the PEAM particle in a manner that causes fluorine and a representative element to be **distributed non-uniformly** in crack portion(s) that would otherwise be exposed to electrolyte solution (and thus to degradation).” Dkt. 91 at 3 (emphases added). But nowhere do the claims of the ’828 Patent mention heating, segregation, non-uniform distribution, or any of the concepts that SEL currently claims is the “critical advance” of the ’828 Patent.

These absence of these terms in the claim language is not because SEL cannot claim them. Indeed, SEL knows how to draft such claims, and has even done so in a pending application. See Dkt. 93 at 14, n.1; *id.* at Ex. 2 (U.S. Pat. App. 2022/0190313) (SEL’s pending application claiming claims a manufacturing method “wherein one or both of titanium and magnesium is **segregated in a crack portion of the positive electrode active material by the step of heating.**”) (emphasis added). SEL’s silence regarding the actual claim language at the crux of the dispute reveals that it drafted the instant claims to be broader, and now is retreating from them. SEL cannot be permitted to do this. “The time to” narrow one’s claims is “prior to that application acquiring its own

independent life . . . as a United States patent.” *Lear Siegler, Inc. v. Aeroquip Corp.*, 733 F.2d 881, 889 (Fed. Cir. 1984).

2. The Specification Does Not Support SEL’s Construction

SEL does not (and cannot) dispute that the specification fails to provide any lexicographic definition for “present in a crack portion.” In fact, SEL admits that “the specification does not recite the words ‘present in a crack portion.’” Dkt. 91 at 11; *see Lucky Litter*, 403 F. App’x at 494 (construing claim term “in accordance with its plain meaning” when it “appear[s] nowhere in the specification”). Accordingly, SEL’s only recourse is to (a) ask the Court to read in specific embodiments from the specification into the claim language, and (b) argue that the specification disavowed or disclaimed the full claim scope of “present in” such that it is limited to segregation. *Id.* at 12. Both are improper.

First, SEL urges the Court to focus on embodiments of the ’828 Patent where “the representative element is [] segregated in the crack portion by heating” such that the segregation limitations be read into Claim 1. Dkt. 91 at 12.⁵ This is contrary to law, as the Federal Circuit has acknowledged that “it is important that we avoid importing limitations from the specification into the claims.” *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1218 (Fed. Cir. 2014) (cleaned up); *see also Cadence Pharms., Inc. v. Exela PharmSci Inc.*, 780 F.3d 1364, 1369 (Fed. Cir. 2015) (“[E]ven if all of the embodiments discussed in the patent included a specific limitation, it would not be proper to import from the patent’s written description limitations that are not found in the claims themselves.”) (internal quotations and citations omitted). Specifically, “limitations may not be read into a claim from a preferred embodiment when the claim language is broader than that

⁵ Notably, SEL points to nothing in the specification—and, indeed, offers no argument—that **fluorine** is segregated in a crack portion. *See* Dkt. 91 at 11–12. Claim 1 of the ’828 Patent requires that both magnesium and fluorine are “present in a crack portion.” ’828 Patent, Cl. 1.

embodiment.” *Resonate Inc.*, 338 F.3d at 1367. Similarly, in *Ericsson*, the Federal Circuit declined to import limitations from the specification into the claims where the specification “never require[d]” use of those features. *Ericsson*, 773 F.3d at 1218.

Here, the claim language is clearly broader than the non-limiting embodiments that SEL points to. All the claim language requires is that magnesium and fluorine are “present in” a crack portion, while SEL cites particular, narrower embodiments where those elements are present due to segregation. *See* Dkt. 91 at 12. Thus, SEL’s attempt to read a narrower limitation of “segregation” into “present in” fails as a matter of law. *See Resonate Inc.*, 338 F.3d at 1365, 1367 (declining to limit claim reciting “transmitting the requested resource to the client” to require “bypass[ing] [a] load balancer” where “any transmission path from the selected serve to the client appears to be within the scope of [the] claim”).

Further, under *Ericsson*, limitations from the segregation-specific embodiments cannot be read into the claims because the ’828 Patent’s specification does not require the “segregation (or non-uniform distribution)” of any elements. As ATL previously explained, the specification discloses several embodiments where magnesium and fluorine are present in a crack portion because they are present in a “second region” or “third region” that are “present in” a crack portion, and where those second and third regions are **not** formed from segregation. Dkt. 93 at 15–16. In fact, the ’828 Patent merely states that a “third region” **can be** formed via segregation. *Id.* (quoting ’828 Patent, 21:38–49). Importantly, however, “[t]he third region 103 can [also] be formed by a sputtering method, a solid phase method, a liquid phase method such as a sol-gel method, or the like.” *Id.* (quoting 828 Patent, 21:38–39). Indeed, SEL even **admits this**. Dkt. 91 at 12. Similarly, the ’828 Patent states that heating (or segregation) is not required to achieve its alleged goals. ’828 Patent, 28:11–17 (“That is, in general, two coating steps [*i.e.*, coating and heating] are necessary

for providing two kinds of regions in a superficial portion; however, *in the method for forming the positive electrode active material of one embodiment of the present invention, only one coating step (sol-gel process) is needed*, which is a formation method with high productivity.”) (emphasis added). Thus, far from requiring that the second and third regions are formed from segregation, the ’828 Patent indicates other (not heating/segregation) methods are possible. *See Ericsson*, 773 F.3d at 1218 (declining to read “select[ing] the most efficient format of feedback response” into claim—even though specification “envision[ed]” this type of selection—because it was “never require[d]”). SEL’s construction thus reads out one expressly stated embodiment of its “present invention,” which confirms it cannot be correct. *Hyperphrase Techs., LLC v. Google, Inc.*, 260 F. App’x 274, 280 (Fed. Cir. 2007) (“A claim construction that excludes an embodiment of the relevant claim(s) is typically incorrect.”); *Lexington Luminance LLC v. Amazon.com Inc.*, 601 F. App’x 963, 971 (Fed. Cir. 2015) (“[C]onstrutions that exclude disclosed embodiments without a clear justification are disfavored.”).

Second, and relatedly, SEL argues that those non-segregation methods were disparaged or disavowed by the specification, and cites cases justifying limiting the claim language in that context. Dkt. 91 at 12. But disparagement and disavowal are very high standards for rewriting claims and do not capture mere passing criticisms: they must be unambiguous and clear, and require the patentee plainly and clearly disavow claim scope in a way that is undeniable to the world about what the patent will cover. *See Johnson & Johnston Assocs. Inc. v. R.E. Serv. Co.*, 285 F.3d 1046, 1052–54 (Fed. Cir. 2002) (“The claims give notice both to the examiner at the U.S. Patent and Trademark Office during prosecution, and to the public at large, including potential competitors, after the patent has issued.”). Because of this notice requirement, “[t]he standard for disavowal of claim scope is . . . exacting.” *Thorner*, 669 F.3d at 1366; *see also Epistar Corp. v.*

Int'l Trade Comm'n, 566 F.3d 1321, 1334–35 (Fed. Cir. 2009) (declining to adopt patentee's construction limiting claim scope absent “expressions of manifest exclusion or restriction” in the intrinsic evidence). SEL's statements do not arise to that exacting level of disavowal, and this situation is nothing like the cases cited by SEL.

SEL primarily relies on the following passage of the specification:

The third region 103 can be formed by a sputtering method, a solid phase method, a liquid phase method such as a sol-gel method, or the like. However, the present inventors found that when a source of a representative element such as magnesium and a source of fluorine are mixed with a material of the first region 101 and then the mixture is heated, the representative element is segregated on a superficial portion of the positive electrode active material particle to form the third region 103. In addition, they found that with the third region 103 formed in this manner, the positive electrode active material 100 has excellent cycle characteristics.

Dkt. 91 at 12 (quoting '828 Patent, 21:38–49).

However, nothing in this passage reaches the Federal Circuit's standard for a disclaimed or disparaged methodology of forming the third region 103. Indeed, SEL appears to conflate mere praise of one method as disparagement of a different method. But this is legally unsupported, as merely praising one method over others does not rise “to the level of ‘a clear and unmistakable disclaimer’” of the others. *Cont'l Circs. LLC v. Intel Corp.*, 915 F.3d 797, 797 (Fed. Cir. 2019) (citing *Thorner*, 669 F.3d at 1367) (holding that a specification praising embodiments of the present invention and comparing it favorably to prior-art methods did not constitute disavowal of those prior-art methods, absent an express disclaimer); see *Epistar Corp.*, 566 F.3d at 1334–35 (holding that specification characterizing prior art as having “shortcomings” and being less “desirable” than the present invention still did not constitute a clear disavowal of claim scope, and accordingly rejecting proposed narrowing construction).

Indeed, the '828 Patent later ***praises*** one of the methods in that paragraph and ***adopts*** it as part of the “present invention.” Specifically, the '828 Patent identifies that same liquid process

“sol-gel method” as “one embodiment of the present invention,” confirming that its statement is not a disparagement intended to disavow non-segregation techniques at all. *See* ’828 Patent, 28:13–17 (“[I]n the method for forming the positive electrode active material of ***one embodiment of the present invention***, only one coating step (***sol-gel process***) is needed, which is a formation method with high productivity.”) (emphasis added). Accordingly, adopting SEL’s argument here would require reading out a self-described “embodiment of the present invention,” which is not legally sound.

SEL’s cited cases are inapposite, as the specifications in those cases explicitly identify and disclaim specific features, prior-art references, and methods (and certainly did not praise them or identify them as embodiments of the “present invention” as the ’828 Patent does here). In *Sunbeam Prods.*, the court found an express disavowal because the patent-at-issue “include[d] a ***detailed*** discussion of the prior art bearings” before “***criticiz[ing]*** the prior art pivoting bearing.” *Sunbeam Prods., Inc. v. HoMedics, Inc.*, 412 F. App’x 263, 265, 267 (Fed. Cir. 2010) (emphases added). Similarly, the specification in *Astrazeneca* specifically criticized the “slow rate of dissolution” of identified prior-art products, which lead to “[p]harmaceuticals with very poor water solubility.” *Astrazeneca AB v. Mut. Pharm. Co., Inc.*, 384 F.3d 1333, 1338 (Fed. Cir. 2004). Finally, SEL cites *Edwards Lifesciences* but fails to recognize that the specification in that case clearly identified “a number of problems associated with” certain prior-art references, before disavowing them. *See Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1333 (Fed. Cir. 2009). Unlike in these cases, the ’828 Patent’s specification does not identify any problems with, criticize, or disavow any prior art, and thus fall far short of the “clear and unmistakable disclaimer” needed to limit claim language from its plain and natural meaning. *Intel*, 915 F.3d at 799. For example, stating that segregation resulted in “excellent cycle characteristic” (’828 Patent, 21:38–49) is not a

criticism of other methods. Indeed, as above, the '828 Patent never explicitly disparages—and even compliments—methods other than segregation. The court should thus adopt the plain and ordinary meaning of “present in” given the absence of a clear disavowal in the specifications.

3. The Purpose of the Invention Does Not Support Reading “Segregation” Into the Claims

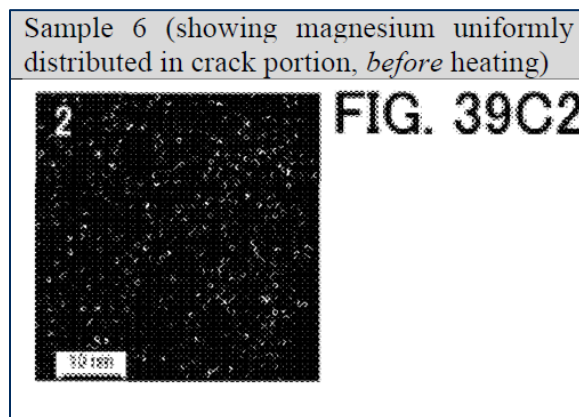
SEL again relies on its purported “purpose of the claimed invention” to argue that the term “present in a crack portion” should be construed to include a non-uniform distribution of magnesium and fluorine (or segregation of these elements) in a crack portion. Dkt. 91 at 13–15. This appeal to the “purpose” of the invention falls flat for all the reasons explained above in Section II.A, and especially because “[t]he court’s task is not to limit claim language to exclude particular devices because they do not serve a perceived ‘purpose’ of the invention. Rather, the district court’s function is to interpret claims according to their plain language unless the patentee has chosen to be his own lexicographer in the specification or has clearly disclaimed coverage during prosecution.” *E-Pass Techs.*, 343 F.3d at 1370. And as explained above in Section II.B.1 and II.B.2, SEL has not chosen to be its own lexicographer and has not clearly disclaimed coverage during prosecution.

SEL’s specific arguments for this theory fare no better. **First**, SEL argues that only its proposed construction “achieves its intended purpose as set forth in the specification, *e.g.*, improved cycle characteristics” because “the presence of any amount of Mg or F in the crack portion—regardless of its distribution—would not necessarily further the purpose of the invention.” Dkt. 91 at 13. This is factually incorrect. As discussed above, SEL ignores that the specification expressly discloses that an embodiment of “the present invention” can be completed without segregation, *e.g.*, through a sol-gel methodology that is praised by the inventors. '828 Patent, 28:13–17. Indeed, the '828 Patent also discloses an embodiment explaining the purported

benefits of magnesium (a representative element) and fluorine without requiring segregation, non-uniform distribution, or *any* required quantities. Specifically, the '828 Patent illustrates an embodiment with “a third region 103” that “contains a compound of representative elements,” such as magnesium oxide. '828 Patent, 11:63–12:4. The third region 103 (containing, *e.g.*, magnesium oxide) is used “to improve stability in charging and discharging of the secondary battery.” *Id.*, 12:14–17. Further, the specification states that “[t]he third region 103 may contain fluorine” and that “fluorine may be substituted for some anions in the compound of the representative elements” (*i.e.*, magnesium fluoride, in part, instead of magnesium oxide). *Id.*, 12:27–30. The '828 Patent notes that “properties of lithium can be improved” due to this substitution, including that the “third region 103 is less likely to prevent charging and discharging” and that “corrosion resistance against a hydrofluoric acid generated by decomposition of an electrolyte solution is increased in some cases.” *Id.*, 12:31–38. Thus, this limitation addresses the alleged benefits and purpose of the invention (improved battery performance and protection against unwanted electrolyte contact) and, importantly, does not mention segregation or a non-uniform distribution of fluorine. *See id.*, 12:63–13:38. Thus, according to the specification in this embodiment, the mere presence of magnesium and fluorine alone improves cycle characteristics in a manner consistent with the purpose of the '828 Patent.

Second, and similar to its attempt to read in particular, narrow limitations discussing segregation into the broad claims, SEL attempts to read in the embodiment shown by Figures 39A-E and 40A-E to limit the claims. This is legally improper. *See Sequoia Tech., LLC v. Dell, Inc.*, 66 F.4th 1317, 1326-27 (Fed. Cir. 2023) (explaining that while a “patent’s express purpose of the invention informs the proper construction of claim terms,” “[w]e are mindful to not limit claims to a preferred embodiment”) (internal quotation marks omitted).

Aside from the legal prohibition against importing limitations from the specification into the claims, these figures do not support SEL's argument. Figures 39A-E and 40A-E are silent regarding the presence or distribution of fluorine, which is a component of Claim 1. *See* '828 Patent, Figs. 39, 40, Cl. 1. Nor does SEL offer any other argument regarding how the "purpose" of the invention is furthered by the uniform or non-uniform distribution of fluorine. *See* Dkt. 91 at 13–15. Moreover, SEL's bare assertion that Figure 39C2 (reproduced below) shows a "uniform distribution of magnesium" is self-serving and unsupported:



Dkt. 91 at 14 (citing '828 Patent, Fig. 39C2). SEL points to nothing in the patent to suggest that the above image shows a uniform distribution of magnesium. Nor does SEL's expert provide any additional guidance. Rather, Dr. Lucht merely parrots SEL's language that the figure shows a "diffuse, *uniform* distribution of magnesium." Lucht Decl., ¶ 49 (*italics in original*—just as in SEL's brief). Indeed, in the above image, there are more white particles towards the right of the figure and there are fewer white particles in the center. And since SEL has abandoned using the actual word "segregation" in its construction (or requiring a level of heat), both sets of figures appear to be captured by its proposal. Accordingly, SEL has not even explained why the figure above shows a non-uniform distribution of magnesium, much less put forward a credible argument that Claim 1 must be limited to require a non-uniform distribution of magnesium and fluorine.

Third, SEL’s reliance on *Amdocs* is misguided. In that case, the court construed “enhance[ment]” to mean “distributed[] enhancement” because “there is *no suggestion* within the specification of centralized, as opposed to distributed, enhancement.” *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 761 F.3d 1329, 1338–39 (Fed. Cir. 2014) (emphasis added). But here, far from “no suggestion” in the specification (of magnesium and fluorine being present in a crack portion due to methods other than segregation), the specification cites multiple such methods and states that the third region (which contains magnesium and fluorine and can be present in a crack portion) “can be formed by” any of those non-segregation methods. ’828 Patent, 21:38–40. Further, the *Amdocs* court found multiple instances where “the specification repeatedly recites the advantages of distributed enhancement.” *Amdocs*, 761 F.3d at 1340. But here, as explained above, the ’828 Patent ascribed the same advantages (that SEL argues is solely a result of segregation) to an embodiment using magnesium and fluorine without any indication that they must be “segregated” in order to achieve those benefits. *See* ’828 Patent, 11:63–13:48.

Accordingly, any alleged “purpose” of the ’828 Patent does not support SEL’s argument that the term “present in” must be limited to “non-uniform distribution” or “segregation.”

4. The Admitted Prior Art (C-20F) Is Irrelevant to the Construction Inquiry

SEL further argues that Claim 1 must be read and interpreted in light of the prior art such that the Court should insert “non-uniform distribution” or “segregation” into the claim language. But the fact that SEL believes a prior-art product (namely, C-20F) may invalidate Claim 1 absent its proposed construction is not a reason for the Court to do so.

First, SEL fails to recognize that the doctrine of construing claims to preserve their validity and avoid ensnaring prior art has limited applicability, and only applies in situations where the

claim term in question is ambiguous—unlike the present case. As the Federal Circuit has stated in its seminal claim construction case:

While we have acknowledged the maxim that claims should be construed to preserve their validity, we have not applied that principle broadly, and we have certainly not endorsed a regime in which validity analysis is a regular component of claim construction. Instead, we have limited the maxim to cases in which “the court concludes, after applying all the available tools of claim construction, that the claim is still ambiguous.”

Phillips v. AWH Corp., 415 F.3d 1303, 1327 (Fed. Cir. 2005) (internal citations omitted). Indeed, in *Phillips*, the Federal Circuit determined the term in question, “baffles,” was not ambiguous, and declined to construe the term to avoid the prior art. *Id.* Accordingly, the Federal Circuit held that “[t]he doctrine of construing claims to preserve their validity, a doctrine of limited utility in any event, therefore has no applicability here.” *Id.* at 1328.

Indeed, such a “validity-focused” approach to claim construction would make invalidity challenges virtually moot, because all claims would be reconstrued to avoid invalidation by a Court or jury. *See Nazomi Commc'ns, Inc. v. Arm Holdings, PLC*, 403 F.3d 1364, 1368–69 (Fed. Cir. 2005) (“In sum, it is essential to understand the claims before their breadth is *limited* for purposes of preserving validity. Otherwise the construing court has put the validity cart before the claim construction horse.”) (emphasis added). This is not an arbitrary choice made by the Federal Circuit, but upholds a key requirement of patent law: notice. “Patent claims function to delineate the precise scope of a claimed invention and to give notice to the public, including potential competitors, of the patentee’s right to exclude.” *Haemonetics Corp. v. Baxter Healthcare Corp.*, 607 F.3d 776, 781 (Fed. Cir. 2010). As the Court may be discerning from recent case activity (including SEL’s voluntary dismissal of one of two patents in this case), ATL believes—and demonstrated to SEL before this lawsuit—that SEL’s claims are invalid, and that ATL’s products have had the claimed features since well before the alleged priority date. With respect to the ’828 Patent, ATL was

entitled to rely on the scope of the claims (as written) and ATL’s well-founded beliefs of invalidity without having to anticipate that SEL would seek to redraft its claims through claim construction.

Here, under *Phillips*, there is no ambiguity as to what “present in” means, despite SEL’s insistence to the contrary. As ATL previously explained in its opening brief, no departure from the plain and ordinary meaning is necessary because “present in” has a plain meaning—namely, that something exists in a particular location. Dkt. 93 at 11. Moreover, the lack of ambiguity in the term “present in a crack portion” is further supported by SEL’s pending patent application that expressly claims a manufacturing method of a PEAM particle “wherein one or both of titanium and magnesium is segregated in a crack portion of the positive electrode active material by the step of heating.” *See id.* at 14, n.1, Ex. 2 (U.S. Pat. App. 2022/0190313). SEL cannot credibly argue that “present in” may ambiguously cover segregation when it knows how to expressly claim segregation. Thus, the ensnarement doctrine “has no applicability here.” *Phillips*, 415 F.3d at 1328.

Second, even in cases where the ensnarement doctrine applies (unlike in the present case), the court must determine “the strength of the inference that the PTO would have recognized that one claim interpretation would render the claim invalid, and that the PTO would not have issued the patent assuming that to be the proper construction of the term.” *See id.* In other words, this inquiry turns on whether it would have been “evident” to the PTO that the particular interpretation of the claim term in question would render the claim invalid. *Apple Computer, Inc. v. Articulate Sys., Inc.*, 234 F.3d 14, 23 (Fed. Cir. 2000).

Apple is instructive. In that case, the patentee attempted to narrowly construe the term “window” to exclude a “menu” because two prior-art references that the PTO considered during examination (including a prior-art product) would have invalidated the patent-in-suit under a broader construction of “window.” *Id.* The Federal Circuit disagreed, finding that, even though the

prior-art references were presented to the Examiner—and even though each of the two references did invalidate the claim—it would not have been evident to the Examiner that those prior art references actually taught all the recited claims of the patent, even under a broad definition of “window.” *Id.* Accordingly, the Federal Circuit found that “the fact that the examiner allowed the claims of [the] patent over these references does not support [patentee]’s attempt to narrow its claims to avoid certain features disclosed in these references.” *Id.*

Here, as in *Apple*, it would not have been evident to the PTO during prosecution of the ’828 Patent that C-20F disclosed all the recited claim elements. For example, nothing in the ’828 specification indicates that C-20F contains titanium, which is a required claim element—nor does SEL point to any such disclosure. ’828 Patent, Cl. 1. And specifically with respect to elements “present in a crack portion,” the specification does not disclose that C-20F even contained crack portions, let alone that magnesium and fluorine were present in such crack portions, let alone that magnesium and fluorine had “non-uniform” distributions in such crack portions. *See id.*, 26:17–27, 55:65–56:6, 56:49–52, 57:27–35, 61:47–50. Thus, SEL cannot credibly argue that it would have been “evident” to the Examiner that C-20F would have rendered Claim 1 invalid. *Apple*, 234 F.3d 14 at 23–24.⁶

SEL points to figures and disclosures from the specification—all of which refer to “Samples 06 and 07”—to support its argument that “a diffuse, uniform distribution of Mg can be seen in the crack portion of the prior art C-20F particle.” Dkt. 91 at 15 (citing ’828 Patent, 63:5–32, Figs. 39, 40). This is misleading and incorrect. Samples 06 and 07 of the ’828 Patent are based on C-20F, but were modified by SEL before any analysis. The specification makes clear that C-

⁶ Whether C-20F actually contains titanium or crack portions is immaterial. The inquiry is what would have been evident to the Examiner at the time the reference was submitted during prosecution. *Phillips*, 415 F.3d at 1327, *Apple*, 234 F.3d 14 at 23–24.

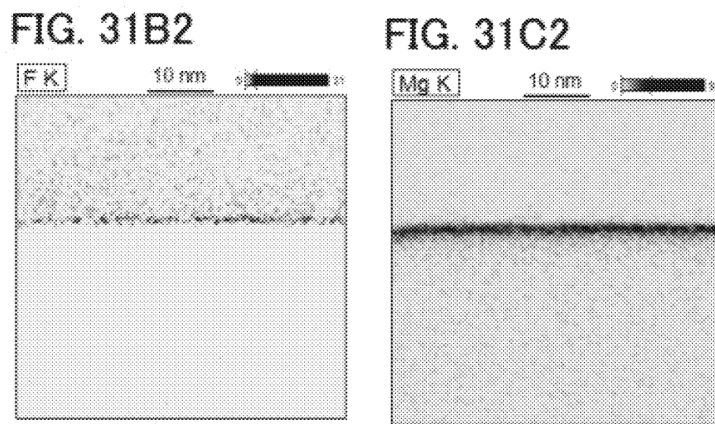
20F particles “were used as a starting material” for these Samples, but that SEL added a coating with “titanium oxide by a sol-gel method” to the Samples and then “dried” them. ’828 Patent, 61:47–50. In fact, the specification further indicates that Samples 06 and 07 were subject to “Step 14” as part of this titanium oxide coating process. *Id.*, 61:51–55. The specification describes Step 14 as having several sub-steps, including that “the composite oxide particles of lithium and the first transition metal are mixed,” that the “mixed solution is stirred in an atmosphere containing water vapor” (for instance, “at 25° C. and a humidity of 90% RH (Relative Humidity) for 4 hours”), that a “coating layer containing titanium with a uniform thickness can be formed,” that “precipitate is collected from the mixed solution,” that “filtration, centrifugation, evaporation and drying, or the like can be used,” that the “residue is washed by alcohol,” and that “the collected residue is dried” (for instance, “vacuum drying is performed at 70° C. for one hour”). *Id.*, 26:28–67. Subsequent to “Step 14,” Sample 07 was heated. *Id.*, 61:58–67. Only afterwards were Sample 06 and Sample 07 “subjected to analysis with TEM-EDX”—leading to the figures that SEL insists reveal that C-20F shows a uniform distribution of magnesium. *Id.*, 62:1–4; Dkt. 91 at 15–16.

In view of all of these steps conducted by SEL using C-20F particles as a base, it would not have been evident to the Examiner that Sample 06 or Sample 07 reveals anything about what the C-20F particles themselves show. Indeed, the specification states that Samples 06 and 07 (as modified by SEL) had “cracks generated in the particles” (’828 Patent, 62:2–3), but it is unclear whether the cracks were present in the C-20F particles, whether they were generated by SEL’s processing, what step these cracks were generated, and so on. Thus, the Examiner would not have understood that those cracks would have been present in unmodified C-20F particles. Moreover, the specification indicates that a comparative Sample 05 also existed, where Sample 05 precisely consisted of the C-20F particle without any modifications from SEL. *Id.*, 57:27–35, Table 1.

Notably, the '828 Patent contains no figures or disclosures as to the distribution of elements (uniform or otherwise) in a crack portion within Sample 05, further supporting the conclusion that the Examiner would not have known what may have been present in the crack portions of the C-20F particles.

Accordingly, it would not have been evident to the Examiner that C-20F contained magnesium and fluorine in a crack portion (in any concentration), much less that C-20F invalidated Claim 1 of the '828 Patent. Thus, the “fact that the examiner allowed the claims of the ['828] Patent over [C-20F] does not support [SEL]’s attempt to narrow its claims to avoid certain features disclosed.” *Apple*, 234 F.3d 14 at 24.

Third, SEL’s argument regarding C-20F is further belied by the '828 Patent itself. SEL argues that C-20F improperly reads on Claim 1—if “present in” refers to “any uniform amount of Mg and F”—because in SEL’s view, C-20F discloses “uniform” distributions but not “non-uniform” distributions. Dkt. 91 at 15–16. But the specification is clear that, “[a]s shown in FIGS. 31B2 and 31C2, it is found that, even in *Sample 05* which is not heated, a certain amount of magnesium and fluorine is *unevenly distributed* in the vicinity of the surface.” '828 Patent, 59:1–4 (emphases added). These figures are shown below:



Id., Fig. 31B2 (showing non-uniform distribution of fluorine at the surface of the C-20F particle), 31C2 (same re magnesium). This disclosure and these surface images call into question the very crux of SEL’s ensnarement argument, as they suggest that C-20F particles **do** exhibit non-uniform distribution of magnesium and fluorine throughout the particle.

Fourth, SEL’s reliance on *Amhil* is misplaced. In that case, the court did not read **in** any limitations from the specification to the claim, but rather read **out** the word “substantially” from the term “substantially vertical face” (of the lid of a plastic container) to avoid ensnaring prior art that disclosed “sloping face[s]” of similar lids. *Amhil Enterprises Ltd. v. Wawa, Inc.*, 81 F.3d 1554, 1562 (Fed. Cir. 1996). This is markedly different from what SEL proposes this Court do, which is to cross out the words “present in” and replace them with “non-uniformly distributed.”

Moreover, and more importantly, the *Amhil* court made the determination to avoid prior art in view of **prosecution history disclaimer**. The court found several examples of lids with sloping faces that the Examiner cited to the patentee during in rejections. *Id.* at 1560. In response, the patentee represented to the Examiner that the “substantially vertical” lid of the application meaningfully differed from the sloping lids of the prior art, and thereby disclaimed sloping faces. *Id.* at 1561. Accordingly, the court determined that “‘substantially vertical’ may be properly interpreted as not including lids with sloping faces[.]” *Id.* Here, unlike in *Amhil*, SEL has not pointed to any portion of the prosecution history of the ’828 Patent showing similar disclaimers of “uniform distribution” of magnesium and fluorine in the cracks.

Fifth, the Court need not even consider SEL’s argument to construe the term to avoid invalidity, as there is no reason to. This is because SEL **has not alleged** in briefing that Claim 1 of the ’828 Patent **will be invalid** if “present in a crack portion” is given its plain and ordinary meaning under ATL’s proposal. Instead, SEL hedges, saying that “the claims should not be construed to

potentially cover the prior art that the inventors sought to distinguish.” Dkt. 91 at 17. In other words, SEL has put forward no reason to construe “present in a crack portion” in light of the “validity” of the patent, since in SEL’s view, the patent may still be valid even if SEL’s proposed construction is not adopted. SEL cannot have it both ways, and its argument by half measures cannot be rewarded.

In summary, the specification of the ’828 Patent fails to show any lexicographic definition or disavowal of claim scope of “present in a crack portion.” Further, SEL’s characterization of the alleged purpose of the invention is not only misleading, but it also does not require importing any limitations from the specification into the claims. And SEL’s plea to rewrite the term “present in a crack portion” falls flat. For the above reasons, and as laid out in ATL’s opening brief, ATL respectfully requests that the Court afford “present in a crack portion” its plain and ordinary meaning.

C. “Relative Value of a Concentration”

Claims	Claim Term	ATL’s Proposed Construction	SEL’s Proposed Construction
2	“relative value of a concentration”	Indefinite	Plain and ordinary meaning

Consistent with ATL’s opening brief, SEL acknowledges that claims must provide “objective boundaries for those of skill in the art.” Dkt. 91 at 17. SEL fails to recognize what its own inventors and corporate representatives did: that “relative value of a concentration,” as used in Claim 2, does not provide such boundaries. As ATL previously explained, a POSITA reading this claim would have no such “objective boundaries” given the inherent ambiguity contained in XPS analysis—namely, whether elemental concentrations should be analyzed on an atomic basis or a weight basis. *See* Dkt. 93 at 18.

SEL cites a range of disclosures and technical data from the '828 Patent's specification to argue that it adequately provides "objective boundaries" for "relative value of a concentration." These citations include the definition of XPS analysis, methods of determining a concentration, a color-coded mapping of the claim language, and a recitation of the upper and lower bounds for claimed concentration value. Dkt. 91 at 17–18. None of this evidence addresses the actual ambiguity of the claim—whether the concentration ratio between transition metals should be done on an atomic or weight basis. With nothing addressing this key question, the claim is ambiguous and provides no guidance, let alone "objective boundaries," for a POSITA to understand it.

Indeed, in its opening brief, SEL argues that "relative value of a concentration" should be given its plain and ordinary meaning, but still has not even attempted to explain what that meaning is—*i.e.*, if the measurement should be performed on an atomic basis or weight basis. The claim itself recites a unitless range of ratios between 0.05 and 0.4, and while the ratio between two values with the same units is unitless, as ATL explained in its opening brief, the choice of atomic basis or weight basis changes the ratio considerably. *See* Dkt. 93 at 20–22.⁷ And the claim provides no

⁷ As an analogy, if Alice ate one hamburger while Bob ate two apples, their consumption ratio **based on number of items eaten** is **1:2, or 0.5**. But if each hamburger has 500 calories while each apple has 125 calories, then Alice and Bob's consumption ratio **based on calories consumed** is

guidance as to whether the claim term requires, for instance: (a) that the concentration ratio between transition metals falls within the claimed range on an *atomic* basis; (b) that the concentration ratio between transition metals falls within the range on a *weight* basis; (c) that *either* of these conditions is enough to satisfy the claim; or (d) that *both* conditions must be met to satisfy the claim. SEL has not provided any clarity on this issue—has not even indicated which of these four options (if any) it believes is correct, yet still purports that the claim provides “objective boundaries” for a POSITA to understand the claim. Thus, SEL’s failure to explain what type of concentration is needed to create the “relative value of a concentration” is ambiguous and unclear, and this claim term should be held indefinite.⁸

III. CONCLUSION

In light of the above, ATL respectfully requests that the Court construe “crack portion” to mean “crack or break formed in a particle,” afford “present in a crack portion” its plain and ordinary meaning, and find “relative value of a concentration” indefinite.

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500:250, or 2. Both ratios compare their consumption, but the choice of units drastically affects the numerical “relative value” of consumption because each food has a different number of calories per item.

Similarly, because each transition metal has a different molecular weight (*i.e.*, number of grams per atom), the choice to measure relative concentration based on weight versus number of atoms has a drastic impact on this numerical ratio as well.

⁸ SEL should not be entitled to proffer any argument that this term should refer to XPS analysis performed on atomic basis or weight basis, to the extent it attempts to do so in its responsive brief. In its numerous claim construction submissions (including its opening brief) and in the parties’ meet and confer, SEL never advanced any theory distinguishing between the two.

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